

Serial No. 10/013,091
Amendment and Response to Office Action
Mailed: 18 January 2006

Amendments to the Claims

The following is a complete listing of the claims, which replaces all previous versions and listings of the claims.

1. (Currently Amended) A method for enriched publish and subscribe in an enterprise running as a zero latency enterprise (ZLE), the enterprise experiencing a plurality of events occurring in association with business transactions conducted at a plurality of sites across the enterprise, the method comprising:

initiating, in real time, a process responsive to an event, the process including publishing to a central repository one or more messages prompted by that event containing information from that event, respective information from the plurality of events being aggregated in the central repository where the aggregated information can, in real-time, be accessible and available for extraction and analysis from across the enterprise,

updating the aggregated information with information from the published messages,

creating enriched messages by enriching the messages with information from that event and/or corresponding information extracted from the central repository, thus creating enriched messages, and

subscribing the enriched messages.

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2. (Original) A method as in claim 1, wherein the central repository operates as an information broker between applications such that applications publish messages to the central repository and subscribe to messages from the central, rather than exchange request-response messages directly with each other.
3. (Original) A method as in claim 2, wherein for a particular number (N) of applications, a combined number of the published and subscribed messages can be reduced from twice that particular number (2N) to a total number of 4 or 5 messages.
4. (Original) A method as in claim 1, wherein the central repository provides a coherent view, in real time, of the aggregated information from across the enterprise, the process being founded on the coherent view of the aggregated information.
5. (Original) A method as in claim 2, further comprising:
predefining a schema for each of the applications, the schema identifying which of the plurality of events and types of data changes its respective application is interested in, the schema further identifying any information its respective application needs for performing tasks related to such events; and
storing each schema in the central repository for later use in enriching the new messages.

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6. (Original) A method as in claim 2, wherein the applications cause the updating of aggregated information at the central repository upon a change of information in their environment.
7. (Original) A method as in claim 1, wherein the published messages and subscribed messages are formatted in XML.
8. (Original) A method as in claim 1, wherein the central repository is based on a database which can be updated with information from new events while being queried and which can send the enriched messages to multiple subscribers, thereby leveraging an innate parallelism, scalability and reliability of the database.
9. (Original) A method as in claim 1, wherein the central repository includes relational database management functionality that caches and queues the published and subscribed messages.
10. (Original) A method as in claim 1, wherein the enriched new messages to which an application subscribes can include extracted information that was previously published to the central repository by other one or more applications.

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11. (Currently Amended) A system for providing enriched publish and subscribe in an enterprise running as a zero latency enterprise (ZLE), the enterprise experiencing a plurality of events occurring in association with business transactions conducted at a plurality of sites across the enterprise, the system comprising:

means for initiating, in real time, a process responsive to an event, the means for initiating the process including

means for publishing to a central repository one or more messages prompted by that event containing information from that event, respective information from the plurality of events being aggregated in the central repository where the aggregated information can, in real-time, be accessible and available for extraction and analysis from across the enterprise,

means for updating the aggregated information with information from the published messages,

means for creating enriched messages by enriching the messages with information from that event and/or corresponding information extracted from the central repository, thus creating enriched messages, and

means for subscribing the enriched messages.

12. (Original) A system as in claim 11, wherein the central repository operates as an information broker between applications such that applications publish messages to the central repository and subscribe to messages from the central, rather than exchange request-response messages directly with each other.

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13. (Original) A system as in claim 11, wherein the central repository is based on a database which can be updated with information from new events while being queried and which can send the enriched messages to multiple subscribers, thereby leveraging an innate parallelism, scalability and reliability of the database.
14. (Original) A method as in claim 11, wherein the central repository includes relational database management functionality that caches and queues the published and subscribed messages.

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15. (Currently Amended) A computer readable medium embodying computer program code configured to cause a computer to perform steps for providing enriched publish and subscribe in an enterprise running as a zero latency enterprise (ZLE), the enterprise experiencing a plurality of events occurring in association with business transactions conducted at a plurality of sites across the enterprise, the steps comprising:

initiating, in real time, a process responsive to an event, the process including the steps of publishing to a central repository one or more messages prompted by that event containing information from that event, respective information from the plurality of events being aggregated in the central repository where the aggregated information can, in real-time, be accessible and available for extraction and analysis from across the enterprise,

updating the aggregated information with information from the published messages,

creating an enriched message by enriching the messages with information from that event and/or corresponding information extracted from the central repository, thus creating an enriched message, and

subscribing the enriched messages.

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16. (Currently Amended) A ZLE virtual hub system for enriched publish and subscribe operations associated with business transactions conducted by an enterprise running as a zero latency enterprise (ZLE), the system being implemented in a ZLE framework and comprising:

- one or more applications via which the business transactions are conducted; and
- an operational data store (ODS), the ODS being operatively communicative with the one or more applications such that the applications are capable to publish messages to and subscribe to messages from the ODS, the ODS being configured
 - to operate as a dynamic central repository that consolidates information from across the enterprise and supports business transactional access to real time information from any of the one or more applications,
 - to know what particular information any one of the applications needs in order to accomplish its task, the particular information enriching messages to which the applications subscribe, and
 - to update the consolidated information with information from messages published by the applications.

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17. (Original) A system as in claim 16, wherein the ODS is configured with a cluster-aware relational database management (RDBMS) functionality that is capable of handling periodic queries, message queueing and store state engine operations, and handling transactions, including insertion, updating and deletion of transactions.
18. (Original) A system as in claim 16, wherein the consolidated information can, in real-time, be accessible and available for extraction and analysis from across the enterprise, the ODS providing for a coherent view of the consolidated information, in real time, from across the enterprise.
19. (Original) A system as in claim 16, wherein the particular information for enriching messages subscribed to by an application can be information previously published by another application.

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20. (Original) A system as in claim 16, further comprising:
a ZLE enriched publish-subscribe service provider module that is associated with the ODS and to which each one of applications can register with its predefined schema, the schema identifying which of a plurality of events associated with the business transactions and which types of data changes its respective application is interested in, the schema further identifying the particular information needed by its respective application.

21. (Original) A system as in claim 16, wherein for a particular number (N) of the applications, a combined number of the published and subscribed messages can be reduced from twice that particular number (2N) to a total number of 4 or 5 messages.

22. (Previously Amended) A system as in claim 16, further comprising:
an inference-based rules engine that finds an appropriate business rule, regardless of the complexity of rules or the size of any rules set, the inference-based rules engine facilitating a rules service that integrates the rules and policies of the enterprise in the ODS; and
a process-flow engine that manages a flow of the business transactions, processes, and messages between the applications integrated via the ZLE framework.

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23. (New) A system as in claim 16, wherein updating the consolidated information comprises;

providing personalized feedback and/or customized offers in real time to a customer while a customer is still engaged.

24. (New) A method as in claim 1, where the corresponding information is mined and/or analyzed in real time.

25. (New) A system as in claim 16, wherein the ZLE virtual hub includes a plurality of applications for performing information mining and/or analysis.

26. (New) A system as in claim 16, wherein the ZLE virtual hub includes a plurality of technology adapters for loosely coupling applications to and logically arranging applications around the ZLE virtual hub.

27. (New) A system as in claim 26, wherein a plurality of applications for performing information mining and/or analysis, are loosely coupled to the ZLE virtual hub via said technology adapters.